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(54) Title: **TRANSGENIC PLANTS WITH REDUCED LEVEL OF SATURATED FATTY ACID AND METHODS FOR MAK-  
ING THEM**

(57) Abstract: The present invention provides transgenic plants with reduced levels of saturated fatty acids in the seed oil and  
methods of making these plants. The transgenic plants developed through this method contain reduced levels of saturated fatty acids  
in seed oil due to expression of a prokaryotic delta-9 desaturase enzyme (i.e. an enzyme that introduces cis double bonds at the  
delta-9 position of saturated fatty acids) operably linked with an endoplasmic reticulum retention and retrieval signal sequence. One  
example of the invention is a plant expressing a heterologous delta-9 desaturase enzyme from cyanobacterium *Anacystis nidulans*,  
which converts lipid-bound 16:0 and 18:0 fatty acids into corresponding 16:1 and 18:1, in operative linkage with a KKSS (SEQ ID  
NO:5) endoplasmic reticulum retention and retrieval signal sequence.



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